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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,367	11/18/2005	Tsuyoshi Shiga	007324-0314107	8190
909	7590	12/05/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			NGUYEN, TRAN N	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2834	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,367	<b>Applicant(s)</b> SHIGA ET AL.	
	<b>Examiner</b> Tran N. Nguyen	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 7 and 8 is/are allowed.
- 6) ☒ Claim(s) 2 and 3 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Request for Continued Examination (RCE)*

The request filed on 11/13/06 for a RCE is acceptable and an Office Action on the RCE follows.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kushihira**

**Takanobu et al (JP-2002-010602**, hereafter **Takanobu**), or alternately **Sumiya Naoyuki et al (JP-2002-233122**, hereafter **Naoyuki**), in view of **Imai (US 6257027)** and **Ukai et al (JP 2002-034187A)**.

**Takanobu** discloses a rotor for a permanent magnet motor of an outer rotor type, the rotor having a plurality of permanent magnets and disposed around a stator, the rotor comprising: a frame (32); an annular iron core (33), combined integrally with the frame; and a plurality of insertion holes, formed in the core, so that the permanent magnets (37) are inserted in the insertion holes respectively,

**Naoyuki** discloses a rotor for a permanent magnet motor of an outer rotor type (figs 1-8), the rotor having a plurality of permanent magnets (302, 303) and disposed around a stator, the rotor comprising: a frame (11); an annular iron core (301), combined integrally with the frame; and a

plurality of insertion holes, formed in the core, so that the permanent magnets (302, 303) are inserted in the insertion holes.

**Takanobu**, or alternately Naoyuki, discloses the claimed invention, except for the limitations of the following:

*(a) the frame the core and the magnet are combined integrally with each other by resin; and, (b) the rotor core having a recess defining a space along an outer periphery of the magnet disposing portion of the insertion hole and the resin is poured into the recess, as in claim 2, and the core having a through hole from which resin is poured into, as in claim 3.*

**Regarding the limitations of subsection (a) herein**, Imai teaches a motor (24) (figs 1-3) is constructed into an outer rotor (36) including a frame (37) and a rotor core (38) with magnets (39), wherein the frame, the core and the magnets are combined integrally by the pouring the molding resin material (37d). Imai teaches that such integrally combined structure of the motor would improve the rotor's withstand of centrifugal force during operation.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by combining the frame, the rotor core and the rotor magnets integrally via molding resin, as taught by Imai. Doing so would both enhance the mechanical protection for the rotor assembly and improve the structure integrity thereof.

**Regarding the limitations of subsection (b) herein**, Ukai teaches a rotor with magnets embedded therein the rotor laminated core (3), wherein the rotor core is configured with insertion holes (1a, 2a) equally spaced at intervals located circumferentially and magnets being inserted into the respective holes, and additionally the rotor core also having through holes (2b) from which resin is poured in. Particularly the respective insertion holes linked with the respective through holes at positions corresponding to the respective permanent magnets via recess (2d), and a resin material (8) which is poured through the through holes and the recess

filling the laminated rotor core to secure the embedded magnets therein for the purpose of enabling an improvement in the rotor magnetic characteristics and reliability.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by configuring the rotor having a recess defining a space along an outer periphery of the magnet disposing portion of the insertion hole and a through hole, wherein the resin is poured into the recess and/or the through hole, as taught by Ukai. Doing so would improve in the rotor magnetic characteristics and reliability.

#### ***Allowable Subject Matter***

**Claims 1, and 7-8** are allowed.

**Claims 4-6** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

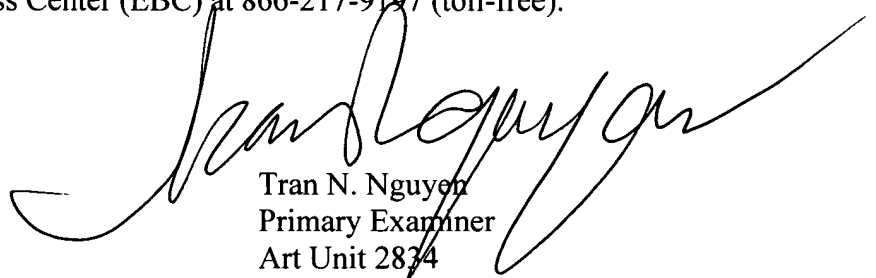
#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen  
Primary Examiner  
Art Unit 2834